

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 09/895435C  
Source: FW/6  
Date Processed by STIC: 5/11/5

# ***ENTERED***



IFW16

## RAW SEQUENCE LISTING

DATE: 05/11/2005

PATENT APPLICATION: US/09/895,435C

TIME: 08:51:04

Input Set : A:\29248-17.txt

Output Set: N:\CRF4\05112005\I895435C.raw

3 <110> APPLICANT: STEWART, A. Francis  
 4 ZHANG, Youming  
 5 HALLET, Bernard  
 7 <120> TITLE OF INVENTION: TYROSINE RECOMBINASE FOR GENETIC ENGINEERING  
 9 <130> FILE REFERENCE: 29248/17  
 11 <140> CURRENT APPLICATION NUMBER: US 09/895,435C  
 12 <141> CURRENT FILING DATE: 2001-06-30  
 14 <160> NUMBER OF SEQ ID NOS: 11  
 16 <170> SOFTWARE: PatentIn version 3.3  
 18 <210> SEQ ID NO: 1  
 19 <211> LENGTH: 244  
 20 <212> TYPE: DNA  
 21 <213> ORGANISM: Bacillus thuringiensis  
 23 <400> SEQUENCE: 1  
 24 ggtaccgcca gcatttcgga aaaaaaccac gctaagaaaa tcagagttaa aaaatcagaa 60  
 26 aatatatcat tattccttga cacatacatg ttcttttttt atacaaaaaa taatacaaca 120  
 28 caatattaat tgtgttgtat taggtgttat aataaatata aatctagggg tttaacgcaa 180  
 30 cacaatttat cgataaataa atacttttag acgcaacaca atttatagac gcggaggaaa 240  
 32 tcac 244  
 35 <210> SEQ ID NO: 2  
 36 <211> LENGTH: 116  
 37 <212> TYPE: DNA  
 38 <213> ORGANISM: Bacillus thuringiensis  
 40 <400> SEQUENCE: 2  
 41 taatacaaca caatattaat tgtgttgtat taggtgttat aataaatata aatctagggg 60  
 43 tttaacgcaa cacaatttat cgataaataa atacttttag acgcaacaca atttat 116  
 46 <210> SEQ ID NO: 3  
 47 <211> LENGTH: 32  
 48 <212> TYPE: DNA  
 49 <213> ORGANISM: Bacillus thuringiensis  
 51 <400> SEQUENCE: 3  
 52 taatacaaca caatattaat tgtgttgtat ta 32  
 55 <210> SEQ ID NO: 4  
 56 <211> LENGTH: 249  
 57 <212> TYPE: DNA  
 58 <213> ORGANISM: Bacillus thuringiensis  
 60 <400> SEQUENCE: 4  
 61 ggggtaccgc cagcatttcg gaaaaaacc acgctaagaa aatcagagtt aaaaaatcag 60  
 63 aaaatatatc attattccaa gacacataca gtgtcttttt ttatacaaaa aataatacaa 120  
 65 cacaatatta attgtgttgt attaggtgtt ataataaata taaatctagg gggttaacgc 180  
 67 aacacaattt atcgataaat aaatactttt agacgcaaca caatttatag acgcggagga 240  
 69 aatcacatg 249  
 72 <210> SEQ ID NO: 5

p.5

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73 <211> LENGTH: 798
74 <212> TYPE: DNA
75 <213> ORGANISM: Bacillus thuringiensis
77 <400> SEQUENCE: 5
78 atggatgttg caaaacagtt ttcttcttat cttaaacaag agaataaaac cgagaacact      60
80 gttcagggat acacatcagg tattagacag tacataaaat ggtttgaagg ttcctatgac      120
82 agaaaattga caaaattgta cgcacaaaat atcttagagt acattagtta tttaaagaat      180
84 gtcaaaatgt tgaacgccaa gtccattaac cacaagatta gtagccttgc taaatttaat      240
86 gaattttctaa tacagaaagg aagtcaacaa gatcaagtaa ttttattaga tgtaaaaaaag      300
88 tttttacaaa gtgtgttaga ggataataac aaacgtaatt atgcaattgc cactctccta      360
90 gcatatacag gagtacgtat ttcagaggca ttatctatca aaatgaatga cttcaattta      420
92 cagactgggg aatgtattat tcgaagtggg aaaggaggta aacaacgaat tgtattacta      480
94 aatagtaagg tacttagtgc tatcaaagat tatctcatcg atcgaaaaac atacagtaca      540
96 gcacatgaat ctccgtatct ttttattagt aaaaagcgag aaaagctcga ccgtacggtc      600
98 gtcaatcgta tctttaaatc atacaggaat gttattactc cacaccaatt acgacacttc      660
100 ttctgtacga atgcaattca aaaaggattt agcattcatg aagttgcaaa tcaagctggg      720
102 cactctaaca tccatacgac actactttac acaaatccaa accaactgca gctaaaaaat      780
104 aaaatggagc tcttataa
107 <210> SEQ ID NO: 6
108 <211> LENGTH: 265
109 <212> TYPE: PRT
110 <213> ORGANISM: Bacillus thuringiensis
112 <400> SEQUENCE: 6
114 Met Asp Val Ala Lys Gln Phe Ser Ser Tyr Leu Lys Gln Glu Asn Lys
115 1 5 10 15
118 Thr Glu Asn Thr Val Gln Gly Tyr Thr Ser Gly Ile Arg Gln Tyr Ile
119 20 25 30
122 Lys Trp Phe Glu Gly Ser Tyr Asp Arg Lys Leu Thr Lys Leu Tyr Arg
123 35 40 45
126 Gln Asn Ile Leu Glu Tyr Ile Ser Tyr Leu Lys Asn Val Lys Met Leu
127 50 55 60
130 Asn Ala Lys Ser Ile Asn His Lys Ile Ser Ser Leu Ala Lys Phe Asn
131 65 70 75 80
134 Glu Phe Leu Ile Gln Lys Gly Ser Gln Gln Asp Gln Val Ile Leu Leu
135 85 90 95
138 Asp Val Lys Lys Phe Leu Gln Ser Val Leu Glu Asp Asn Asn Lys Arg
139 100 105 110
142 Asn Tyr Ala Ile Ala Thr Leu Leu Ala Tyr Thr Gly Val Arg Ile Ser
143 115 120 125
146 Glu Ala Leu Ser Ile Lys Met Asn Asp Phe Asn Leu Gln Thr Gly Glu
147 130 135 140
150 Cys Ile Ile Arg Ser Gly Lys Gly Gly Lys Gln Arg Ile Val Leu Leu
151 145 150 155 160
154 Asn Ser Lys Val Leu Ser Ala Ile Lys Asp Tyr Leu Ile Asp Arg Lys
155 165 170 175
158 Thr Tyr Ser Thr Ala His Glu Ser Pro Tyr Leu Phe Ile Ser Lys Lys
159 180 185 190
162 Arg Glu Lys Leu Asp Arg Thr Val Val Asn Arg Ile Phe Lys Ser Tyr
163 195 200 205

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166 Arg Asn Val Ile Thr Pro His Gln Leu Arg His Phe Phe Cys Thr Asn
167      210                      215                      220
170 Ala Ile Gln Lys Gly Phe Ser Ile His Glu Val Ala Asn Gln Ala Gly
171 225                      230                      235                      240
174 His Ser Asn Ile His Thr Thr Leu Leu Tyr Thr Asn Pro Asn Gln Leu
175                      245                      250                      255
178 Gln Leu Lys Asn Lys Met Glu Leu Leu
179      260                      265
182 <210> SEQ ID NO: 7
183 <211> LENGTH: 116
184 <212> TYPE: DNA
185 <213> ORGANISM: Bacillus thuringiensis
187 <400> SEQUENCE: 7
188 taatacaaca caatattaat tgtgttgtat taggtgttat aataaatata tatctagggg      60
190 tttaacgcaa cacaatttat cgataaataa atacttttag acgcaacaca atttat      116
193 <210> SEQ ID NO: 8
194 <211> LENGTH: 116
195 <212> TYPE: DNA
196 <213> ORGANISM: Bacillus thuringiensis
198 <400> SEQUENCE: 8
199 taatacaaca caatattaat tgtgttgtat taggtgttat aatatatata aatctagggg      60
201 tttaacgcaa cacaatttat cgataaataa atacttttag acgcaacaca atttat      116
204 <210> SEQ ID NO: 9
205 <211> LENGTH: 116
206 <212> TYPE: DNA
207 <213> ORGANISM: Bacillus thuringiensis
210 <220> FEATURE:
211 <221> NAME/KEY: N_region
212 <222> LOCATION: (33)..(64)
213 <223> OTHER INFORMATION: n = a, t, g, or #c
215 <220> FEATURE:
216 <221> NAME/KEY: misc_feature
217 <222> LOCATION: (33)..(64)
218 <223> OTHER INFORMATION: n is a, c, g, or t
220 <220> FEATURE:
221 <221> NAME/KEY: N_region
222 <222> LOCATION: (81)..(100)
223 <223> OTHER INFORMATION: n = a, t, g, or #c
225 <220> FEATURE:
226 <221> NAME/KEY: misc_feature
227 <222> LOCATION: (81)..(100)
228 <223> OTHER INFORMATION: n is a, c, g, or t
230 <400> SEQUENCE: 9
W--> 231 taatacaaca caatattaat tgtgttgtat tannnnnnnnn nnnnnnnnnn nnnnnnnnnn      60
233 nnnnacgcaa cacaatttat nnnnnnnnnn nnnnnnnnnn acgcaacaca atttat      116
236 <210> SEQ ID NO: 10
237 <211> LENGTH: 124
238 <212> TYPE: DNA
239 <213> ORGANISM: Bacillus thuringiensis

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242 <220> FEATURE:
243 <221> NAME/KEY: N_region
244 <222> LOCATION: (33)..(74)
245 <223> OTHER INFORMATION: n = a, t, g, or #c
247 <220> FEATURE:
248 <221> NAME/KEY: misc_feature
249 <222> LOCATION: (33)..(74)
250 <223> OTHER INFORMATION: n is a, c, g, or t
252 <400> SEQUENCE: 10
W--> 253 taatacaaca caatattaat tgtgttgtat tannnnnnnnn nnnnnnnnnn nnnnnnnnnn      60
255 nnnnnnnnnn nnnnacgcaa cacaatttac gataaataaa tacttttaga cgcaacacaa      120
257 tttta                                     124
260 <210> SEQ ID NO: 11
261 <211> LENGTH: 134
262 <212> TYPE: DNA
263 <213> ORGANISM: Bacillus thuringiensis
265 <400> SEQUENCE: 11
266 taatacaaca caatattaat tgtgttgtat taggtgttat aataaatata aatctagggg      60
268 tttaacgcaa cacaatttat cgataaataa atacttttag acgcaacaca atttatagac      120
270 gcggaggaaa tcac                                     134

```

RAW SEQUENCE LISTING ERROR SUMMARY  
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Input Set : A:\29248-17.txt  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:9; N Pos. 33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52  
Seq#:9; N Pos. 53,54,55,56,57,58,59,60,61,62,63,64,81,82,83,84,85,86,87,88  
Seq#:9; N Pos. 89,90,91,92,93,94,95,96,97,98,99,100  
Seq#:10; N Pos. 33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52  
Seq#:10; N Pos. 53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72  
Seq#:10; N Pos. 73,74

**VERIFICATION SUMMARY**

DATE: 05/11/2005

PATENT APPLICATION: US/09/895,435C

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Input Set : A:\29248-17.txt

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L:231 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0

M:341 Repeated in SeqNo=9

L:253 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0

M:341 Repeated in SeqNo=10